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SEQUENCE LISTING

TECH CENTER 1600, 2900

<110> Gijzen, Mark

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<140> US 08/939,905

<141> 1996-09-30

<150> US 08/723,414

<151> 1996-09-30

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agtagaatca	tttagaggatg	gaattgctag	tgtatatataa	ataaaattagc	gaaaatgcac	1080
ttattgaaat	cttgtacta	gatcccacta	ataaataagt	tataactagg	cacattcat	1140
gtcacttgaa	atcctatgcc	ttgtatatta	gaggacgtgt	tcttcttggt	attatactat	1200

<210> 14
 <211> 1200
 <212> DNA
 <213> *Medicago sativa*

<400> 14
 aatgcttggc ctaagtgc aa cagctttt ctgtatggc tttgtgctaa ttggaggagt 60
 accctttca aatgcacaac tagatccttc atttacaac agtacatgtt ctaatcttga 120
 ttcaatcgta cggtgtgc tcacaaatgt ttcacaatct gatcccagaa tgcttggtag 180
 tctcatcagg ctacatttc atgactgtt tttcaaggt tgcatgcct cgattttgct 240
 gaacgatacg gctacaatag tgagcgagca aagtgcacca ccaaataaca actccataag 300
 aggttggat gtgataaacc agatcaaaac agcggtggaa aatgcttgc ctaacacagt 360
 ttcttgc gatattcttgc ctcttctgc taaaatatca tctgatctgg caaatggcc 420
 tacttggcaa gttccattag gaagaaggaa tagttgaca gcaaataatt cccttgcagc 480
 tcaaaatctt cctgccccca cttcaacct tactcgacta aaatctaact ttgataatca 540
 aaacctcagt actactgatc tagttgcact ctcagggtgc catacaattt gaagaggta 600
 atgcagatt ttcgttgatc gattatacaa tttcagcaac actggaaacc ccgattcaac 660
 tcttaacacg acctatttac aaacatttgc agcaatatgt cccaatggtg gacctggta 720
 aaacctaacc gatttggacc caaccacacc agatacattt gactccaact actactccaa 780
 tctccaagtt ggaaaggct tgttttagag tgaccaagag ctttttcca gaaatggtc 840
 tgacactatt tctattgtca atagttcgc caataatcaa actctcttct ttgaaaattt 900
 tgttagcctca atgataaaaa tggtaatat tggatttta actggatctc aaggtgaaat 960
 tagaacacag tgtaatgctg tgaatggaa ttcttctgga ttggctactg tagtcaccaa 1020
 agaatcatca gaagatggaa tggctagctc attctaaata taagcttggaa aaatattgaa 1080
 gaggttctat aattttgtgc atacatataat ggtatgtgca tgtggtgtat tatgttttg 1140
 ttatgttctt caagttgatc aggactgta gaagctccct aataatattt gtgtcaaagt 1200

<210> 15
 <211> 283
 <212> PRT
 <213> *Glycine max*

<400> 15
 Phe His Asp Cys Phe Val Gln Gly Cys Asp Gly Ser Val Leu Leu Asn
 1 5 10 15

Asn	Thr	Asp	Thr	Ile	Glu	Ser	Glu	Gln	Asp	Ala	Leu	Pro	Asn	Ile	Asn
				20		25						30			

Ser Ile Arg Gly Leu Asp Val Val Asn Asp Ile Lys Thr Ala Val Glu
 35 40 45

Asn	Ser	Cys	Pro	Asp	Thr	Val	Ser	Cys	Ala	Asp	Ile	Leu	Ala	Ile	Ala
				50		55					60				

Ala Glu Ile Ala Ser Val Ala Gly Arg Arg Ser Gly Trp Pro Val Pro
 65 70 75 80
 Leu Gly Arg Arg Asp Ser Leu Thr Ala Asn Arg Thr Leu Ala Asn Gln
 85 90 95
 Asn Leu Pro Ala Pro Phe Phe Asn Leu Thr Gln Leu Lys Ala Ser Phe
 100 105 110
 Ala Val Gln Gly Leu Asn Thr Leu Asp Leu Val Thr Leu Ser Gly Gly
 115 120 125
 His Thr Ser Gly Arg Ala Arg Cys Ser Thr Phe Ile Asn Arg Leu Tyr
 130 135 140
 Asn Phe Ser Asn Thr Gly Leu Ile His Leu Asp Thr Thr Tyr Leu Glu
 145 150 155 160
 Val Leu Arg Ala Arg Cys Pro Gln Asn Ala Thr Gly Asp Asn Leu Thr
 165 170 175
 Asn Leu Asp Leu Ser Thr Pro Asp Gln Phe Asp Asn Arg Tyr Tyr Ser
 180 185 190
 Asn Leu Leu Gln Leu Asn Gly Leu Leu Gln Ser Asp Gln Glu Arg Phe
 195 200 205
 Ser Thr Pro Gly Ala Asp Thr Ile Pro Leu Ser Ile Ala Ser Ala Asn
 210 215 220
 Gln Asn Thr Phe Phe Ser Asn Phe Arg Val Ser Met Ile Lys Met Gly
 225 230 235 240
 Asn Ile Gly Val Leu Thr Gly Asp Glu Gly Glu Ile Arg Leu Gln Cys
 245 250 255
 Asn Phe Val Asn Gly Asp Ser Phe Gly Leu Ala Ser Val Ala Ser Lys
 260 265 270
 Asp Ala Lys Gln Lys Leu Val Ala Gln Ser Lys
 275 280
 <210> 16
 <211> 355
 <212> PRT
 <213> *Medicago sativa*
 <400> 16
 Met Asn Ser Leu Arg Ala Val Ala Ile Ala Leu Cys Cys Ile Val Val
 1 5 10 15
 Val Leu Gly Gly Leu Pro Phe Ser Ser Asn Ala Gln Leu Asp Pro Ser
 20 25 30
 Phe Tyr Arg Asn Thr Cys Pro Asn Val Ser Ser Ile Val Arg Glu Val
 35 40 45
 Ile Arg Ser Val Ser Lys Lys Asp Pro Arg Met Leu Ala Ser Leu Val
 50 55 60
 Arg Leu His Phe His Asp Cys Phe Val Gln Gly Cys Asp Ala Ser Val
 65 70 75 80
 Leu Leu Asn Lys Thr Asp Thr Val Val Ser Glu Gln Asp Ala Phe Pro
 85 90 95

Asn Arg Asn Ser Leu Arg Gly Leu Asp Val Val Asn Gln Ile Lys Thr
 100 105 110
 Ala Val Glu Lys Ala Cys Pro Asn Thr Val Ser Cys Ala Asp Ile Leu
 115 120 125
 Ala Leu Ser Ala Glu Leu Ser Ser Thr Leu Ala Asp Gly Pro Asp Trp
 130 135 140
 Lys Val Pro Leu Gly Arg Arg Asp Gly Leu Thr Ala Asn Gln Leu Leu
 145 150 155 160
 Ala Asn Gln Asn Leu Pro Ala Pro Phe Asn Thr Thr Asp Gln Leu Lys
 165 170 175
 Ala Ala Phe Ala Ala Gln Gly Leu Asp Thr Thr Asp Leu Val Ala Leu
 180 185 190
 Ser Gly Ala His Thr Phe Gly Arg Ala His Cys Ser Leu Phe Val Ser
 195 200 205
 Arg Leu Tyr Asn Phe Ser Gly Thr Gly Ser Pro Asp Pro Thr Leu Asn
 210 215 220
 Thr Thr Tyr Leu Gln Gln Leu Arg Thr Ile Cys Pro Asn Gly Gly Pro
 225 230 235 240
 Gly Thr Asn Leu Thr Asn Phe Asp Pro Thr Thr Pro Asp Lys Phe Asp
 245 250 255
 Lys Asn Tyr Tyr Ser Asn Leu Gln Val Lys Lys Gly Leu Leu Gln Ser
 260 265 270
 Asp Gln Glu Leu Phe Ser Thr Ser Gly Ser Asp Thr Ile Ser Ile Val
 275 280 285
 Asn Lys Phe Ala Thr Asp Gln Lys Ala Phe Phe Glu Ser Phe Arg Ala
 290 295 300
 Ala Met Ile Lys Met Gly Asn Ile Gly Val Leu Thr Gly Asn Gln Gly
 305 310 315 320
 Glu Ile Arg Lys Gln Cys Asn Phe Val Asn Ser Lys Ser Ala Glu Leu
 325 330 335
 Gly Leu Ile Asn Val Ala Ser Ala Asp Ser Ser Glu Glu Gly Met Val
 340 345 350
 Ser Ser Met
 355
 <210> 17
 <211> 358
 <212> PRT
 <213> *Medicago sativa*
 <400> 17
 Met Asn Ser Leu Ala Thr Ser Met Trp Cys Val Val Leu Leu Val Val
 1 5 10 15
 Leu Gly Gly Leu Pro Phe Ser Ser Asp Ala Gln Leu Ser Pro Thr Phe
 20 25 30
 Tyr Ser Lys Thr Cys Pro Thr Val Ser Ser Ile Val Ser Asn Val Leu
 35 40 45

Thr Asn Val Ser Lys Thr Asp Pro Arg Met Leu Ala Ser Leu Val Arg
 50 55 60
 Leu His Phe His Asp Cys Phe Val Leu Gly Cys Asp Ala Ser Val Leu
 65 70 75 80
 Leu Asn Asn Thr Ala Thr Ile Val Ser Glu Gln Gln Ala Phe Pro Asn
 85 90 95
 Asn Asn Ser Leu Arg Gly Leu Asp Val Val Asn Gln Ile Lys Leu Ala
 100 105 110
 Val Glu Val Pro Cys Pro Asn Thr Val Ser Cys Ala Asp Ile Leu Ala
 115 120 125
 Leu Ala Ala Gln Ala Ser Ser Val Leu Ala Gln Gly Pro Ser Trp Thr
 130 135 140
 Val Pro Leu Gly Arg Arg Asp Gly Leu Thr Ala Asn Arg Thr Leu Ala
 145 150 155 160
 Asn Gln Asn Leu Pro Ala Pro Phe Asn Ser Leu Asp Gln Leu Lys Ala
 165 170 175
 Ala Phe Thr Ala Gln Gly Leu Asn Thr Thr Asp Leu Val Ala Leu Ser
 180 185 190
 Gly Ala His Thr Phe Gly Arg Ala His Cys Ala Gln Phe Val Ser Arg
 195 200 205
 Leu Tyr Asn Phe Ser Ser Thr Gly Ser Pro Asp Pro Thr Leu Asn Thr
 210 215 220
 Thr Tyr Leu Gln Gln Leu Arg Thr Ile Cys Pro Asn Gly Gly Pro Gly
 225 230 235 240
 Thr Asn Leu Thr Asn Phe Asp Pro Thr Thr Pro Asp Lys Phe Asp Lys
 245 250 255
 Asn Tyr Tyr Ser Asn Leu Gln Val Lys Lys Gly Leu Leu Gln Ser Asp
 260 265 270
 Gln Glu Leu Phe Ser Thr Ser Gly Ala Asp Thr Ile Ser Ile Val Asn
 275 280 285
 Lys Phe Ser Thr Asp Gln Asn Ala Phe Phe Glu Ser Phe Lys Ala Ala
 290 295 300
 Met Ile Lys Met Gly Asn Ile Gly Val Leu Thr Gly Thr Lys Gly Glu
 305 310 315 320
 Ile Arg Lys Gln Cys Asn Phe Val Asn Phe Val Asn Ser Asn Ser Ala
 325 330 335
 Glu Leu Asp Leu Ala Thr Ile Ala Ser Ile Val Glu Ser Leu Glu Asp
 340 345 350
 Gly Ile Ala Ser Val Ile
 355
 <210> 18
 <211> 347
 <212> PRT
 <213> *Medicago sativa*

Met Trp Cys Val Val Leu Leu Val Val Leu Gly Gly Leu Pro Phe Ser
1 5 10 15

Ser Asp Ala Gln Leu Ser Pro Thr Phe Tyr Ser Lys Thr Cys Pro Thr
20 25 30

Val Ser Ser Ile Val Ser Asn Val Leu Thr Asn Val Ser Lys Thr Asp
35 40 45

Pro Arg Met Leu Ala Ser Leu Val Arg Leu His Phe His Asp Cys Phe
50 55 60

Val Leu Gly Cys Asp Ala Ser Val Leu Leu Asn Asn Thr Ala Thr Ile
65 70 75 80

Val Ser Glu Gln Gln Ala Phe Pro Asn Asn Asn Ser Leu Arg Gly Leu
85 90 95

Asp Val Val Asn Gln Ile Lys Thr Ala Val Glu Ser Ala Cys Pro Asn
100 105 110

Thr Val Ser Cys Ala Asp Ile Leu Ala Leu Ala Gln Ala Ser Ser Val
115 120 125

Leu Ala Gln Gly Pro Ser Trp Thr Val Pro Leu Gly Arg Arg Asp Gly
130 135 140

Leu Thr Ala Asn Arg Thr Leu Ala Asn Gln Asn Leu Pro Ala Pro Phe
145 150 155 160

Asn Ser Leu Asp His Leu Lys Leu His Leu Thr Ala Gln Gly Leu Ile
165 170 175

Thr Pro Val Leu Val Ala Leu Ser Gly Ala His Thr Phe Gly Arg Ala
180 185 190

His Cys Ala Gln Phe Val Ser Arg Leu Tyr Asn Phe Ser Ser Thr Gly
195 200 205

Ser Pro Asp Pro Thr Leu Asn Thr Thr Tyr Leu Gln Gln Leu Arg Thr
210 215 220

Ile Cys Pro Asn Gly Gly Pro Gly Thr Asn Leu Thr Asn Phe Asp Pro
225 230 235 240

Thr Thr Pro Asp Lys Phe Asp Lys Asn Tyr Tyr Ser Asn Leu Gln Val
245 250 255

Lys Lys Gly Leu Leu Gln Ser Asp Gln Glu Leu Phe Ser Thr Ser Gly
260 265 270

Ala Asp Thr Ile Ser Ile Val Asp Lys Phe Ser Thr Asp Gln Asn Ala
275 280 285

Phe Phe Glu Ser Phe Lys Ala Ala Met Ile Lys Met Gly Asn Ile Gly
290 295 300

Val Leu Thr Gly Thr Lys Gly Glu Ile Arg Lys Gln Cys Asn Phe Val
305 310 315 320

Asn Ser Asn Ser Ala Glu Leu Asp Leu Ala Thr Ile Ala Ser Ile Val
325 330 335

Glu Ser Leu Glu Asp Gly Ile Ala Ser Val Ile
 340 345

<210> 19
 <211> 351
 <212> PRT
 <213> Medicago sativa

<400> 19

Met Leu Gly Leu Ser Ala Thr Ala Phe Cys Cys Met Val Phe Val Leu
 1 5 10 15

Ile Gly Gly Val Pro Phe Ser Asn Ala Gln Leu Asp Pro Ser Phe Tyr
 20 25 30

Asn Ser Thr Cys Ser Asn Leu Asp Ser Ile Val Arg Gly Val Leu Thr
 35 40 45

Asn Val Ser Gln Ser Asp Pro Arg Met Leu Gly Ser Leu Ile Arg Leu
 50 55 60

His Phe His Asp Cys Phe Val Gln Gly Cys Asp Ala Ser Ile Leu Leu
 65 70 75 80

Asn Asp Thr Ala Thr Ile Val Ser Glu Gln Ser Ala Pro Pro Asn Asn
 85 90 95

Asn Ser Ile Arg Gly Leu Asp Val Ile Asn Gln Ile Lys Thr Ala Val
 100 105 110

Glu Asn Ala Cys Pro Asn Thr Val Ser Cys Ala Asp Ile Leu Ala Leu
 115 120 125

Ser Ala Glu Ile Ser Ser Asp Leu Ala Asn Gly Pro Thr Trp Gln Val
 130 135 140

Pro Leu Gly Arg Arg Asp Ser Leu Thr Ala Asn Asn Ser Leu Ala Ala
 145 150 155 160

Gln Asn Leu Pro Ala Pro Thr Phe Asn Leu Thr Arg Leu Lys Ser Asn
 165 170 175

Phe Asp Asn Gln Asn Leu Ser Thr Thr Asp Leu Val Ala Leu Ser Gly
 180 185 190

Gly His Thr Ile Gly Arg Gly Gln Cys Arg Phe Phe Val Asp Arg Leu
 195 200 205

Tyr Asn Phe Ser Asn Thr Gly Asn Pro Asp Ser Thr Leu Asn Thr Thr
 210 215 220

Tyr Leu Gln Thr Leu Gln Ala Ile Cys Pro Asn Gly Gly Pro Gly Thr
 225 230 235 240

Asn Leu Thr Asp Leu Asp Pro Thr Thr Pro Asp Thr Phe Asp Ser Asn
 245 250 255

Tyr Tyr Ser Asn Leu Gln Val Gly Lys Gly Leu Phe Gln Ser Asp Gln
 260 265 270

Glu Leu Phe Ser Arg Asn Gly Ser Asp Thr Ile Ser Ile Val Asn Ser
 275 280 285

Phe Ala Asn Asn Gln Thr Leu Phe Phe Glu Asn Phe Val Ala Ser Met
 290 295 300

Ile Lys Met Gly Asn Ile Gly Val Leu Thr Gly Ser Gln Gly Glu Ile
305 310 315 320

Arg Thr Gln Cys Asn Ala Val Asn Gly Asn Ser Ser Gly Leu Ala Thr
325 330 335

Val Val Thr Lys Glu Ser Ser Glu Asp Gly Met Ala Ser Ser Phe
340 345 350